

## **What is claimed is:**

**[Claim 1]** A crate system for transporting items wherein said crate system comprises:

- a first set of structural tubes;
- a first set of beams; and
- a first fastening mechanism for securing said first set of structural tubes in a spaced relationship to one another to said first set of beams.

**[Claim 2]** The crate system of claim 1 wherein said crate system further includes:

- a second set of structural tubes;
- a second set of beams;
- a second fastening mechanism for securing said second set of structural tubes in a spaced relationship to one another to said second set of beams; and
- a securing mechanism for securing said assembled first set of structural tubes to said assembled second set of structural tubes.

**[Claim 3]** The crate system of claim 1 wherein said first set of structural tubes includes:

- each of said first set of structural tubes shaped in a substantially U shape.

**[Claim 4]** The crate system of claim 1 wherein said first set of structural tubes includes:

- each of said first set of structural tubes shaped in a substantially U shape; and
- said first set of beams include a open slot.

**[Claim 5]** The crate system of claim 1 wherein said first set of structural tubes includes:

each of said first set of structural tubes shaped in a substantially U shape;

said first set of beams include a open slot; and

said first fastening mechanism includes spring nuts mounted in said open slot and a threaded fastener engaging through each of said first set of structural tubes into said spring nuts.

**[Claim 6]** The crate system of claim 1 wherein said first set of structural tubes includes:

each of said first set of structural tubes shaped in a substantially U shape; and

said fastening mechanism secures said first set of structural tubes in a substantially upright position spaced from each other on said first set of beams.

**[Claim 7]** The crate system of claim 1 wherein said crate system further includes:

a second set of structural tubes;

a second set of beams;

a second fastening mechanism for securing said second set of structural tubes in a spaced relationship to one another to said second set of beams; and

a securing mechanism for securing said assembled first set of structural tubes to said assembled second set of structural tubes wherein said securing mechanism includes at least one beam extending the length of said crate and fasteners securing said assembled first set of structural tubes to said assembled second set of structural tubes.

**[Claim 8]** The crate system of claim 1 wherein said crate system further includes:

each of said first set of structural tubes shaped in a substantially U shape;

said fastening mechanism secures said first set of structural tubes in a substantially upright position spaced from each other on said first set of beams;

a second set of structural tubes shaped in a substantially U shape;

a second set of beams;

a second fastening mechanism for securing said second set of structural tubes in a substantially upright position in spaced relationship to one another to said second set of beams; and

a securing mechanism for securing said assembled first set of structural tubes to said assembled second set of structural tubes.

[Claim 9]        The crate system of claim 1 wherein said crate system further includes:

each of said first set of structural tubes shaped in a substantially U shape;

said fastening mechanism secures said first set of structural tubes in a substantially upright position spaced from each other on said first set of beams;

a second set of structural tubes shaped in a substantially U shape;

a second set of beams;

a second fastening mechanism for securing said second set of structural tubes in a substantially upright position in spaced relationship to one another to said second set of beams; and

a securing mechanism for securing said assembled first set of structural tubes to said assembled second set of structural tubes wherein said securing mechanism includes at least one beam extending the length of said crate and fasteners securing said assembled first set of structural tubes to said assembled second set of structural tubes.

**[Claim 10]** A method for using a crate system for transporting items wherein said method comprises:

- providing a first set of structural tubes;
- providing a first set of beams;
- providing a first fastening mechanism; and
- securing said first set of structural tubes in a spaced relationship to one another to said first set of beams by said first fastening mechanism.

**[Claim 11]** The method of claim 10 wherein said method further includes the steps of:

- providing a second set of structural tubes;
- providing a second set of beams;
- providing a second fastening mechanism;
- securing said second set of structural tubes in a spaced relationship to one another to said second set of beams with said second fastening mechanism;
- providing a securing mechanism; and
- securing said assembled first set of structural tubes to said assembled second set of structural tubes with said securing mechanism.

**[Claim 12]** The method of claim 10 wherein said step of providing said first set of structural tubes includes:

- providing each of said first set of structural tubes shaped in a substantially U shape.

**[Claim 13]** The method of claim 10 wherein said method further includes:

- said step of providing said first set of structural tubes includes providing each of said first set of structural tubes shaped in a substantially U shape; and
- providing an open slot on said first set of beams.

**[Claim 14]** The method of claim 10 wherein said method further includes:

said step of providing said first set of structural tubes includes shaping each of said first set of structural tubes in a substantially U shape;  
said step of providing said first set of beams includes providing an open slot; and  
providing spring nuts on said first fastening mechanism mounted in said open slot and a threaded fastener engaging through each of said first set of structural tubes into said spring nuts.

**[Claim 15]** The method of claim 10 wherein said method further includes:  
said step of providing said first set of structural tubes includes shaping each of said first set of structural tubes in a substantially U shape; and  
said step of securing said first set of structural tubes to said first beams includes securing said first set of structural tubes in a substantially upright position spaced from each other on said first set of beams.

**[Claim 16]** The method of claim 10 wherein said method further includes:  
providing a second set of structural tubes;  
providing a second set of beams;  
providing a second fastening mechanism;  
securing said second set of structural tubes in a spaced relationship to one another to said second set of beams with said second fastening mechanism;  
providing a securing mechanism; and  
securing said assembled first set of structural tubes to said assembled second set of structural tubes wherein said securing mechanism includes at least one beam extending the length of said crate and fasteners securing said assembled first set of structural tubes to said assembled second set of structural tubes with said securing mechanism.

**[Claim 17]** The method of claim 10 wherein said method further includes:

shaping each of said first set of structural tubes in a substantially U shape;

securing said first set of structural tubes in a substantially upright position spaced from each other on said first set of beams with said first fastening mechanism;

providing a second set of structural tubes shaped in a substantially U shape;

providing a second set of beams;

providing a second fastening mechanism;

securing said second set of structural tubes in a substantially upright position in spaced relationship to one another to said second set of beams with said second fastening mechanism;

providing a securing mechanism; and

securing said assembled first set of structural tubes to said assembled second set of structural tubes with said securing mechanism.

#### [Claim 18]

The method of claim 10 wherein said method further includes:

shaping each of said first set of structural tubes in a substantially U shape;

securing said first set of structural tubes in a substantially upright position spaced from each other on said first set of beams with said first fastening mechanism;

providing a second set of structural tubes shaped in a substantially U shape;

providing a second set of beams;

providing a second fastening mechanism;

securing said second set of structural tubes in a substantially upright position in spaced relationship to one another to said second set of beams with said second fastening mechanism;

providing a securing mechanism; and

securing said assembled first set of structural tubes to said assembled second set of structural tubes with said securing mechanism wherein said

securing mechanism includes at least one beam extending the length of said crate and fasteners securing said assembled first set of structural tubes to said assembled second set of structural tubes.

[Claim 19] The method of claim 10 wherein said method further includes:  
disassembling said crate by unfastening said first set of structural tubes from said first set of beams.

[Claim 20] The method of claim 19 wherein said method further includes:  
packaging said unassembled first set of structural tubes and said unassembled said first set of beams and said fastening mechanism for shipment.